In the Claims

Claims 1 – 24 (Cancelled)

25. (New) A hot-rolled steel plate containing C of about 0.03 to about 0.1%, Si of about 0.01 to about 0.5%, Mn of about 1.2 to about 2.5% and Al of about 0.08% or less by mass, wherein a metal structure is a substantially three-phase structure of ferrite, bainite, and island martensite, and an area fraction of the island martensite is about 3 to about 20%, in addition, the steel plate has any one of chemical composition conditions of the following (1) to (3) for precipitating a complex carbide in a ferrite phase:

(1) a condition where the steel plate further contains Mo of about 0.05 to about 0.4% and Ti of about 0.005 to about 0.04%, wherein the remainder is substantially Fe, and C/(Mo+Ti) which is a ratio of C amount to total amount of Mo and Ti in percent by atom is 1.2 to 3;

(2) a condition where the steel plate further contains Mo of about 0.05 to about 0.4% and Ti of about 0.005 to about 0.04%, in addition, contains Nb of about 0.005 to about 0.07% and/or V of about 0.005 to about 0.1%, wherein the remainder is substantially Fe, and C/(Mo+Ti+Nb+V) which is a ratio of the C amount to total amount of Mo, Ti, Nb and V in percent by atom is 1.2 to 3; and,

(3) a condition where the steel plate further contains at least two selected from Ti of about 0.005 to about 0.04%, Nb of about 0.005 to about 0.07% and V of about 0.005 to about 0.1%, wherein the remainder is substantially Fe, and C/(Ti+Nb+V) which is a ratio of the C amount to total amount of Ti, Nb and V in percent by atom is 1.2 to 3.

26. (New) A hot-rolled steel plate containing C of about 0.03 to about 0.1%, Si of about 0.01 to about 0.5%, Mn of about 1.2 to about 2.5%, Al of about 0.08% or less, Mo of about 0.05 to about 0.4% and Ti of about 0.005 to about 0.04% by mass, wherein the remainder is substantially Fe,

and C/(Mo+Ti) which is a ratio of C amount to total amount of Mo and Ti in percent by atom is 1.2 to 3, and a metal structure is a substantially three-phase structure of ferrite, bainite, and island martensite and an area fraction of the island martensite is about 3 to about 20%.

27. (New) A hot-rolled steel plate containing C of about 0.03 to about 0.1%, Si of about 0.01 to about 0.5%, Mn of about 1.2 to about 2.5% and Al of about 0.08% or less by mass, and containing at least two elements selected from Ti of about 0.005 to about 0.04%, Nb of about 0.005 to about 0.07% and V of about 0.005 to about 0.1% by mass, wherein the remainder is substantially Fe, and C/(Ti+Nb+V) which is a ratio of C amount to total amount of Ti, Nb, and V in percent by atom is 1.2 to 3, and a metal structure is a substantially three-phase structure of ferrite, bainite, and island martensite and an area fraction of the island martensite is about 3 to about 20%.

28. The hot rolled steel plate according to any one of claims 25 to 27, wherein any one of the following complex carbides is precipitated in the ferrite phase:

(a) a complex carbide containing Ti and Mo, having a grain diameter of less than about 10nm;

(b) a complex carbide containing Ti, Mo, Nb and/or V, having a grain diameter of less than 10nm; and,

(c) a complex carbide containing at least two elements selected from Ti, Nb and V, having a grain diameter of less than 10nm.

29. (New) The hot rolled steel plate according to any one of claims 25 to 27, wherein the steel plate further contains N of about 0.007% or less by mass.

30. (New) The hot rolled steel plate according to claim 26, wherein the steel plate further contains Nb of about 0.005 to about 0.07% and/or V of about 0.005 to about 0.1% by mass, and C/(Mo+Ti+Nb+V) that is the ratio of the C amount to the total amount of Mo, Ti, Nb and V in

percent by atom is 1.2 to 3.

31. (New) The hot rolled steel plate according to any one of claims 25 to 27, wherein the steel plate contains Ti of about 0.005 to less than about 0.02%.

32. (New) The hot rolled steel plate according to any one of claims 25 to 27, wherein the steel plate further contains at least one of Cu of about 0.5% or less, Ni of about 0.5% or less, Cr of about 0.5% or less, B of about 0.005% or less, and Ca of about 0.0005 to about 0.003% by mass.

33. (New) The hot rolled steel plate according to any one of claims 25 to 27, wherein the steel plate further contains Ti/N of about 2 to about 8 in percent by mass.

34. (New) A welded steel pipe using the steel plates according to any one of claims 25 to 27.

35. (New) A method for manufacturing a hot-rolled steel plate, comprising:

hot-rolling a steel slab, which contains C of about 0.03 to about 0.1%, Si of about 0.01 to about 0.5%, Mn of about 1.2 to about 2.5%, and Al of about 0.08% or less, and further has any one of chemical composition conditions of the following (1) to (3) to precipitate complex carbides in the ferrite phase, at a condition of heating temperature of about 1000 to about 1300°C and rolling finish temperature of about Ar3 or more;

performing accelerated cooling of the hot-rolled steel plate to about 450 to about 650°C at a cooling rate of about 5 °C/sec or more;

and reheating the steel plate to about 550 to about 750°C at a heating rate of about 0.5 °C/sec or more promptly after the cooling:

(1) a condition where the steel plate further contains Mo of about 0.05 to about 0.4% and Ti of about 0.005 to about 0.04%, wherein the remainder is substantially Fe, and C/(Mo+Ti) which is a ratio of C amount to total amount of Mo and Ti in percent by atom is 1.2 to 3;

(2) a condition where the steel plate further contains Mo of about 0.05 to about 0.4% and Ti of about 0.005 to about 0.04%, and contains Nb of about 0.005 to about 0.07% and/or V of about 0.005 to about 0.1%, wherein the remainder is substantially Fe, and C/(Mo+Ti+Nb+V) which is a ratio of the C amount to total amount of Mo, Ti, Nb and V in percent by atom is 1.2 to 3; and

(3) a condition where the steel plate further contains at least two elements selected from Ti of about 0.005 to about 0.04%, Nb of about 0.005 to about 0.07% and V of about 0.005 to about 0.1%, wherein the remainder is substantially Fe, and C/(Ti+Nb+V) which is a ratio of the C amount to total amount of Ti, Nb and V in percent by atom is 1.2 to 3.

36. (New) The method of claim 35, wherein a metal structure of the hot-rolled steel plate is a substantially three-phase structure of ferrite, bainite and island martensite, and an area fraction of the island martensite is about 3 to about 20%.

37. (New) A method for manufacturing a welded steel pipe, comprising:

hot-rolling a steel slab, in which C of about 0.03 to about 0.1%, Si of about 0.01 to about 0.5%, Mn of about 1.2 to about 2.5%, Al of about 0.08% or less, Mo of about 0.05 to about 0.4% and Ti of about 0.005 to about 0.04% are contained, and the remainder is substantially Fe, and C/(Mo+Ti) which is a ratio of C amount to total amount of Mo and Ti in percent by atom is 1.2 to 3, at a condition of heating temperature of about 1000 to about 1300°C and rolling finish temperature of about Ar3 or more;

performing accelerated cooling of the hot-rolled steel plate to about 450 to about 650°C at a cooling rate of about 5 °C/sec or more;

reheating the steel plate to about 550 to about 750°C at a heating rate of 0.5 °C/sec or more promptly after the cooling;

and forming a steel plate, in which a metal structure is a substantially three-phase structure of ferrite, bainite, and island martensite, and an area fraction of the island martensite is about 3 to about 20%, into a tubular shape in cold working, and then welding abutting surfaces to form a steel pipe.

38. (New) A method for manufacturing a welded steel pipe comprising:

hot-rolling a steel slab, in which C of about 0.03 to about 0.1%, Si of about 0.01 to about 0.5%, Mn of about 1.2 to about 2.5%, and Al of about 0.08% or less are contained, and at least two selected from Ti of about 0.005 to about 0.04%, Nb of about 0.005 to about 0.07%, and V of about 0.005 to about 0.1% are contained, and the remainder is substantially Fe, and C/(Ti+Nb+V) which is a ratio of C amount to total amount of Ti, Nb and V in percent by atom is 1.2 to 3, at a condition of heating temperature of about 1000 to about 1300°C and rolling finish temperature of about Ar3 or more;

performing accelerated cooling of the hot-rolled steel plate to about 450 to about 650°C at a cooling rate of about 5 °C/sec or more;

reheating the steel plate to about 550 to about 750°C at a heating rate of about 0.5 °C/sec or more promptly after the cooling;

and forming a steel plate, in which a metal structure is a substantially three-phase structure of ferrite, bainite, and island martensite, and an area fraction of the island martensite is about 3 to about 20%, into a tubular shape in cold working, and then welding abutting surfaces to form a steel pipe.

39. (New) The method according to any one of claims 35 to 38, wherein when the steel plate or steel pipe is reheated, it is reheated to temperature at least about 50°C higher than previously cooled temperature after the cooling.

40. (New) The method according to any one of claims 35 to 38, comprising:

performing the accelerated cooling to the hot-rolled steel plate to about 450 to about 650°C at

the cooling rate of about 5 °C/sec or more to form a two-phase structure of non-transformed austenite and bainite; and

reheating the steel plate to about 550 to about 750°C at the heating rate of about 0.5 °C/sec or more promptly after the cooling to change the structure into a three-phase structure of a ferrite phase in which precipitates are dispersedly precipitated, a bainite phase and island martensite.

41. (New) The method according to any one of claims 35 to 38, wherein the treatment of reheating the steel plate to about 550 to about 750°C at the heating rate of about 0.5 °C/sec or more promptly after cooling is performed with an induction heating device arranged on the same line as rolling equipment and cooling equipment.

42. (New) The method according to any one of claims 35 to 38, wherein any one of the following complex carbides is precipitated in the ferrite phase:

(a) a complex carbide containing Ti and Mo, having a grain diameter of less than about 10nm, or

(b) a complex carbide containing Ti, Mo, Nb and/or V, having a grain diameter of less than about 10nm, or

(c) a complex carbide containing at least two elements selected from Ti, Nb and V, having a grain diameter of less than about 10nm.

43. (New) The method according to any one of claims 35 to 38, wherein the plate or the pipe further contains N of about 0.007% or less by mass.

44. (New) The method according to claim 37, wherein the plate or the pipe further contains Nb of about 0.005 to about 0.07% and/or V of about 0.005 to about 0.1%, and C/(Mo+Ti+Nb+V) that is a ratio of C amount to total amount of Mo, Ti, Nb and V in percent by atom is 1.2 to 3.

45. (New) The method according to any one of claims 35 to 38, wherein the plate or the pipe further contains Ti of about 0.005 to less than about 0.02%.

46. (New) The method according to any one of claims 35 to 38, wherein the plate or the pipe further contains at least one element selected from Cu of about 0.5% or less, Ni of about 0.5% or less, Cr of about 0.5% or less, B of about 0.005% or less, and Ca of about 0.0005 to about 0.003% by mass.

47. (New) The method according to any one of claims 35 to 38, wherein the plate or the pipe further contains Ti/N of about 2 to about 8 in percent by mass.

48. (New) The method according to any one of claims 35 and 36, further comprising forming obtained steel plates into a tubular shape in cold working, and welding abutting surfaces to form a steel pipe.